

### **In the Claims**

Claims 1 – 16 (Cancelled)

17. (New) A device to monitor penetration of an instrument in an anatomical structure comprising:

at least two electrodes;

a source of current supplying the at least two electrodes; and

means for measuring impedance between the electrodes, wherein the electrodes are located on the penetration instrument, wherein the first electrode has a contact surface coinciding with a distal surface of the penetration instrument and the second electrode has a contact surface coinciding with a lateral surface of the penetration instrument, and wherein the contact surfaces are dimensioned to have a coinciding and constant contact surface as a function of a degree of penetration of the penetration instrument in the anatomical structure.

18. (New) The device according to claim 17, wherein the two electrodes coinciding with the distal surface of the penetration instrument and the electrodes are coaxially arranged and separated from each other by insulation.

19. (New) The device according to claim 17, wherein the two electrodes coinciding with the distal surface of the penetration instrument and the electrodes are symmetrical with respect to a longitudinal axis of the penetration instrument.

20. (New) The device according to claim 17, wherein the electrode has one annular contact surface.

21. (New) The device according to claim 17, comprising one main electrode coinciding with a distal surface of the penetration instrument and a plurality of laterally coinciding secondary electrodes to form longitudinally spaced annular contacts.

22. (New) The device according to claim 17, comprising a first electrode coinciding with the distal surface of the penetration instrument, a second electrode coinciding with the lateral surface of the penetration instrument and a third electrode partially covering the lateral surface of the penetration instrument.

23. (New) The device according to claim 17, further comprising means for signaling producing a signal during detection by the means to measure the impedance by a variation in impedance.

24. (New) The device according to claim 23, wherein the signal produced is a sound signal whose frequency and/or rhythm decrease as a function of impedance measured.

25. (New) The device according to claim 24, wherein the frequency and/or rhythm decrease in a non-linear manner as a function of the impedance measured.

26. (New) The device according to claim 23, wherein the signal produced when the instrument leaves the bone structure is an acute sound signal with a rapid rhythm.

27. (New) The device according to claim 23, wherein the signal produced when the instrument penetrates the bone structure is a low-pitched sound signal with a slow rhythm.

28. (New) The device according to claim 17, which is an autonomous device.

29. (New) The device according to claim 17, further comprising a central channel for passage of an additional instrument.